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10/560,707	12/15/2005	George Marmaropoulos	US030209US	6795
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EXAMINER				
PIZIALI, ANDREW T				
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1794				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/560,707

Applicant(s)

MARMAROPOULOS ET AL.

Examiner

Andrew T. Piziali

Art Unit

1794

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 March 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 and 21-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 and 21-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 December 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. The amendment filed on 3/26/2009 has been entered.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1-9 and 21-31 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention.

Regarding claim 1, the specification is silent regarding a conductive elastomeric material suitable for converting an interaction into a signal wherein an actuator is configured to produce said signal.

Regarding claim 6, the specification is silent regarding the actuator being formed from a material that is more rigid than the conductive elastomeric material.

Regarding claim 8, the specification is silent regarding an actuator depicting a response to interaction with a user interface.

Regarding claim 24, the specification is silent regarding an interaction causing one or more areas of said conductive elastomeric material to be displaced without requiring a lateral displacement of an actuator.

Regarding claims 26 and 27, the specification is silent regarding the user interface being operable for manipulation of “two or more” or “three or more” functionalities.

4. Claims 1-9 and 21-31 are rejected under 35 U.S.C. 112, first paragraph, because the specification does not reasonably provide enablement. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims.

Claim 1 claims that the actuator is cooperative with the conductive elastomeric material to provide a user interface. Claim 1 additionally claims that the actuator is configured for user interaction to produce a signal. Said limitations are purely functional and are not subjected to the limited construction under 35 U.S.C. 112, sixth paragraph.

Any claim that includes purely functional claim language, and which is not subjected to the limited construction under 35 U.S.C. 112, sixth paragraph, fails to meet the requirements of 35 U.S.C., first paragraph (scope of enablement). *Halliburton Oil Well Cementing Co. v. Walker*, 329 U.S. 1 (1946). Such unlimited purely functional claiming may reasonably be construed to encompass any and all structures for performing the recited function, including those which are not what the applicant invented. When the limitation encompasses any and all structures or acts for performing a recited function, including those which were not what the applicant had invented, the disclosure fails to provide a scope of enablement commensurate with the scope of the claim and the claim would violate the prohibition of *Halliburton*. *Ex parte Miyazaki* (BPAI Precedential 19 November 2008).

5. Claims 1-9 and 21-31 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claims contain subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Regarding claim 1, the specification clearly does not enable one skilled in the art to configure a plastic or rubber actuator to produce a signal that the elastomeric material is capable of converting, through an interaction, into a signal. The specification does not even enable one skilled in the art to configure a plastic or rubber actuator to produce any signal.

Regarding claim 1, the specification does not enable one skilled in the art to form an actuator that is cooperative with a conductive elastomeric material to provide a user interface. The specification does not disclose how a plastic or rubber actuator can be constructed to be cooperative as claimed.

Regarding claim 2, the specification does not enable one skilled in the art to make or use the textile of claim 1 wherein one or more characteristics of the conductive elastomeric material change in response to an interaction.

Regarding claim 8, the specification does not enable one skilled in the art to make or use an actuator that depicts a response to interaction with a user interface.

Regarding claim 9, the specification does not enable one skilled in the art to make or use the textile of claim 1 wherein one or more characteristics of the conductive elastomeric material change in proportional response to an interaction wherein said interaction causes one or more areas of the conductive elastomeric material to be displaced.

Regarding claim 21, the specification does not enable one skilled in the art to make or use an actuator that cooperates with one or more conductive areas.

Regarding claim 22, the specification does not enable one skilled in the art to make or use one or more conductive areas wherein one or more characteristics change in response to an interaction with an actuator.

Regarding claim 23, the specification does not enable one skilled in the art to use said displacement ratio as claimed.

Regarding claim 24, the specification does not enable one skilled in the art to cause said interaction.

Regarding claims 25-27, the specification does not enable one skilled in the art to make or use the interface to be operable as claimed.

Regarding claim 28, the specification does not enable one skilled in the art to make or use a conductive fiber having a conductive threadlike core.

Regarding claims 29-31, the specification does not enable one skilled in the art to make or use a conductive fiber with a conductive semi-fluid sleeve.

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 1-9 and 21-31 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 1, the applicant claims that a conductive elastomeric material is suitable for converting an interaction into a signal while an actuator is configured to produce said signal. It is not clear how a conductive elastomeric material can convert an interaction into a signal while said signal is also produced by an actuator.

Regarding claim 1, the use of the phrase “an actuator cooperative with said conductive elastomeric material to provide a user interface” renders the claim indefinite. The claim is amenable to two plausible definitions. Based on the description provided in the specification, “cooperative” could be interpreted to mean: (a) work together or (b) compliant. Thus, neither the specification, nor the claims, nor the ordinary meanings of the words provides any guidance as to what applicant intends to cover with this claim language. Due to the ambiguity as to what is intended by the claimed limitation and the fact that this claim element is amenable to two or more plausible claim constructions, this claim is rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter that the Applicant considers to be the invention. See *Ex parte Miyazaki* (BPAI Precedential 19 November 2008).

Regarding claim 1, the use of the phrase “an actuator...configured for user interaction to produce said signal” renders the claim indefinite. The claim is amenable to two plausible definitions. Based on the lack of a description provided in the specification, “configured” could be interpreted to mean: (a) shaped or (b) positioned. Thus, neither the specification, nor the claims, nor the ordinary meanings of the words provides any guidance as to what applicant intends to cover with this claim language. Due to the ambiguity as to what is intended by the claimed limitation and the fact that this claim element is amenable to two or more plausible claim constructions, this claim is rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter that the Applicant considers to be the invention. See *Ex parte Miyazaki* (BPAI Precedential 19 November 2008).

Regarding claims 28-30, the phrase “threadlike” renders the claims indefinite. The claims include elements not actually disclosed, thereby rendering the scope of the claims unascertainable. In addition, the phrase “semi-fluid sleeve” renders the claims indefinite. It is not clear what materials are considered semi-fluid.

Claim Rejections - 35 USC § 102/103

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 1-9 and 21-27 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over USPN 6,360,615 to Smela.

Smela discloses a textile construction comprising: a conductive elastomeric material suitable for converting an interaction therewith into a signal; and an actuator cooperative with said conductive elastomeric material to provide a user interface, wherein said actuator is separate from said conductive elastomeric material and is configured for user interaction to produce said signal and wherein said actuator is formed from one or more of plastic and rubber (see entire document including the Figures, column 4, lines 18-34, column 7, lines 8-67, and the paragraph bridging columns 11 and 12).

In the event that it is shown that the applied prior art does not disclose the claimed embodiment with sufficient specificity, the invention is obvious because the prior art specifically discloses the claimed constituents.

Regarding claim 2, one or more characteristics (e.g., resistance) of the conductive elastomeric material changes in response to the interaction (column 7, lines 8-13).

Regarding claim 3, the conductive elastomeric material has piezoelectric characteristics (column 7, lines 59-67).

Regarding claim 4, the conductive elastomeric material comprises any of the claimed conjugated polymers or ion-implanted polymer (column 7, line 59 through column 8, line 3).

Regarding claim 5, the conductive elastomeric material can have one or more of the claimed elements (column 8, lines 4-6).

Regarding claims 6 and 7, Smela discloses that plastic housings may be used (paragraph bridging columns 11 and 12). Therefore, it appears that Smela discloses that the actuator may be formed from plastic. In addition, it would have been obvious to one having ordinary skill in the art at the time the invention was made to make the actuator from any suitable material, such as plastic or rubber, because it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability and desired characteristics.

Regarding claim 8, the actuator is cooperative with the conductive elastomeric material (column 7, lines 8-13).

Regarding claim 9, one or more characteristics of said conductive elastomeric material changes in proportional response to said interaction, said interaction causing one or more areas of said conductive elastomeric material to be displaced (column 9, lines 3-8).

Regarding claims 21, the actuator is cooperative with one or more conductive areas (column 4, lines 18-34).

Regarding claim 22, one or more characteristics of said one or more conductive areas change in response to an interaction with said actuator (column 7, lines 8-13).

Regarding claim 23, the intended use recitation of the claimed invention does not result in a structural difference between the claimed invention and the prior art.

Regarding claim 24, the interaction causes one or more areas of said conductive elastomeric material to be displaced without requiring a lateral displacement of said actuator (column 4, lines 18-34).

Regarding claims 25-27, considering that the textile construction disclosed by the applied prior art is substantially identical to the claimed textile construction, the user interface is inherently operable as claimed.

11. Claims 1-3, 5-9 and 21-31 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over USPAP 2002/0075232 to Daum.

Daum discloses a textile construction comprising: a conductive elastomeric material suitable for converting an interaction therewith into a signal; and an actuator cooperative with said conductive elastomeric material to provide a user interface, wherein said actuator is separate from said conductive elastomeric material and is configured for user interaction to produce said signal and wherein said actuator is formed from one or more of plastic and rubber (see entire document including the Figures, [0009], [0033], [0035], [0038], [0039], [0047]).

In the event that it is shown that the applied prior art does not disclose the claimed embodiment with sufficient specificity, the invention is obvious because the prior art specifically discloses the claimed constituents.

Regarding claim 2, one or more characteristics (e.g., resistance) of the conductive elastomeric material changes in response to the interaction ([0037] and [0038]).

Regarding claim 3, the conductive elastomeric material has piezoelectric characteristics ([0037] and [0038]).

Regarding claim 5, the conductive elastomeric material can have one or more of the claimed elements (Figures and [0039]).

Regarding claims 6 and 7, one of the rubber layers of the textile construction may be considered an actuator [0038].

Regarding claim 8, the actuator is cooperative with the conductive elastomeric material ([0038] and [0039]).

Regarding claim 9, one or more characteristics of said conductive elastomeric material changes in proportional response to said interaction, said interaction causing one or more areas of said conductive elastomeric material to be displaced ([0038], [0039], and [0047]).

Regarding claims 21, the actuator is cooperative with one or more conductive areas ([0047]).

Regarding claim 22, one or more characteristics of said one or more conductive areas change in response to an interaction with said actuator ([0038] and [0047]).

Regarding claim 23, the intended use recitation of the claimed invention does not result in a structural difference between the claimed invention and the prior art.

Regarding claim 24, the interaction causes one or more areas of said conductive elastomeric material to be displaced without requiring a lateral displacement of said actuator ([0038] and [0047]).

Regarding claims 25-27, considering that the textile construction disclosed by the applied prior art is substantially identical to the claimed textile construction, the user interface is inherently operable as claimed.

Regarding claims 27-31, Daum discloses that the conductive elastomeric material is formed from conductive fibers having a conductive core ([0039]).

Claim Rejections - 35 USC § 103

12. Claims 1-9 and 21-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPAP 2001/0017759 to Marmaropoulos in view of USPN 6,360,615 to Smela.

Marmaropoulos discloses a textile construction comprising: a conductive elastomeric material suitable for converting an interaction therewith into a signal; and an actuator cooperative with said conductive elastomeric material to provide a user interface, wherein said actuator is separate from said conductive elastomeric material and is configured for user interaction to produce said signal and wherein said actuator is formed from one or more of plastic and rubber (see entire document including the Figures, [0015], [0016], [0017], [0022], and [0023]).

Marmaropoulos is silent with regards to specific actuator materials, therefore, it would have been necessary and thus obvious to look to the prior art for conventional materials. Smela discloses that it is known in the art to use plastic housings (paragraph bridging columns 11 and 12). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to make the actuator from plastic, motivated by the expectation of successfully practicing the invention of Marmaropoulos.

Regarding claim 2, one or more characteristics (e.g., resistance) of the conductive elastomeric material changes in response to the interaction [0017].

Regarding claim 3, the conductive elastomeric material has piezoelectric characteristics [0017]. In addition, Smela discloses that it is known in the art to use piezoelectric materials such as that claimed (see entire document including column 7, line 59 through column 8, line 3). It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the cord from any suitable conductive elastomeric material, such as that currently claimed, because it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability and desired characteristics.

Regarding claim 5, the conductive elastomeric material can have one or more of the claimed elements [0015].

Regarding claims 6 and 7, In addition, it would have been obvious to one having ordinary skill in the art at the time the invention was made to make the actuator from any suitable material, such as plastic or rubber, because it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability and desired characteristics.

Regarding claim 8, the actuator is cooperative with the conductive elastomeric material [0015].

Regarding claim 9, one or more characteristics of said conductive elastomeric material changes in proportional response to said interaction, said interaction causing one or more areas of said conductive elastomeric material to be displaced [0016].

Regarding claims 21, the actuator is cooperative with one or more conductive areas ([0023]).

Regarding claim 22, one or more characteristics of said one or more conductive areas change in response to an interaction with said actuator ([0016]).

Regarding claim 23, the intended use recitation of the claimed invention does not result in a structural difference between the claimed invention and the prior art.

Regarding claim 24, the interaction causes one or more areas of said conductive elastomeric material to be displaced without requiring a lateral displacement of said actuator ([0016 and [0023]).

Regarding claims 25-27, considering that the textile construction disclosed by the applied prior art is substantially identical to the claimed textile construction, the user interface is inherently operable as claimed.

13. Claims 28-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 6,360,615 to Smela as applied to claims 1-9 and 21-27 above, and further in view of USPN 5,346,649 to Karna.

Smela discloses the use of electrically conductive coated plastic fibers (column 7, lines 33-58), but Smela does not appear to specifically teach the claimed core conductive fiber material. Karna discloses that intrinsically electrically conducting plastic material is known (see entire document including column 1, lines 6-35). It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the conductive fibers from any suitable material, such as that disclosed by Karna, because the fibers are lightweight, possess advantages mechanical properties, possess good corrosion resistance, and/or because the fibers

are low cost (column 1, lines 17-27), and because it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability and desired characteristics.

14. Claims 28-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPAP 2001/0017759 to Marmaropoulos in view of USPN 6,360,615 to Smela as applied to claims 1-9 and 21-27 above, and further in view of USPN 5,346,649 to Karna.

Marmaropoulos discloses the use of electrically conductive coated plastic fibers ([0016]), but Marmaropoulos does not appear to specifically teach the claimed core conductive fiber material. Karna discloses that intrinsically electrically conducting plastic material is known (see entire document including column 1, lines 6-35). It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the conductive fibers from any suitable material, such as that disclosed by Karna, because the fibers are lightweight, possess advantages mechanical properties, possess good corrosion resistance, and/or because the fibers are low cost (column 1, lines 17-27), and because it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability and desired characteristics.

Response to Arguments

15. Applicant's arguments filed 3/26/2009 have been fully considered but they are not persuasive.

The applicant asserts that Smela and Daum fail to teach or suggest that the actuator is cooperative with the conductive elastomeric material. The examiner respectfully disagrees. Firstly, the claims are rejected under both 35 USC 112 first and second paragraph. Secondly, the actuators are compliant with the conductive elastomeric material. Thirdly, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim.

The applicant asserts that Marmaropoulos fails to teach or suggest that the actuator is formed from plastic or rubber. In response to applicant's arguments against one reference individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Conclusion

16. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew T. Piziali whose telephone number is (571) 272-1541. The examiner can normally be reached on Monday-Friday (8:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Larry Tarazano can be reached on (571) 272-1515. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Andrew T Piziali/
Primary Examiner, Art Unit 1794